




GCSE Science
Parents Information
Evening




- There are two routes students in Year 10 follow:
 - Combined Science (Trilogy: 2 GCSEs)
 - Separate Science (3 GCSEs) (Biology, Chemistry and Physics)
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- Combined Science:
 - 10 lessons per fortnight
 - 2 teachers
 - Separate Sciences:
 - 15 lessons per fortnight
 - 3 teachers
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Assessment

- Students sit the GCSE exams in each subject at the end of Year 11
 - They will sit 2 exams for each subject (Biology, Chemistry and Physics)
 - Combined Science exams are 1 hour 15 mins each
 - Separate Science exams are 1 hour 45 mins each
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New Grading

- The A* to G grades have been replaced by 9 to 1 for Biology, Chemistry and Physics.
 - Combined Science has a 17 point grading scale: from 9-9, 9-8, 8-8 through to 2-1, 1-1.
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No more coursework

- Students have a set of required practicals that they do in lessons.
- Students are then examined on the practicals they have done as part of the GCSE exams.

Increased Maths Content

- Students now face more maths content in the new Science GCSEs.
 - The different subjects have a different percentage of the questions that will rely on Maths skills:
 - Biology = 10%
 - Chemistry = 20%
 - Physics = 30%
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Recall (revision)

- The percentage of recall questions has increased for the Science GCSEs.
- Students will have to learn simple facts and be able to recall them.

Equation number	Word equation	Symbol equation
1	weight = mass × gravitational field strength (g)	$W = m g$
2	work done = force × distance (along the line of action of the force)	$W = F s$
3	force applied to a spring = spring constant × extension	$F = k e$
4	moment of a force = force × distance (normal to direction of force)	$M = F d$
5	pressure = $\frac{\text{force normal to a surface}}{\text{area of that surface}}$	$p = \frac{F}{A}$
6	distance travelled = speed × time	$s = v t$
7	acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
8	resultant force = mass × acceleration	$F = m a$
9 HT	momentum = mass × velocity	$p = m v$
10	kinetic energy = $0.5 \times \text{mass} \times (\text{speed})^2$	$E_k = \frac{1}{2} m v^2$
11	gravitational potential energy = mass × gravitational field strength (g) × height	$E_p = m g h$
12	power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
13	power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
14	efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
15	efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	

In Physics pupils have to learn and recall 23 equations and 21 for trilogy.

They will also need to be able to select and apply a further 12 from an equation sheet.


Equation number	Word equation	Symbol equation
16	wave speed = frequency × wavelength	$v = f \lambda$
17	charge flow = current × time	$Q = I t$
18	potential difference = current × resistance	$V = I R$
19	power = potential difference × current	$P = V I$
20	power = (current) ² × resistance	$P = I^2 R$
21	energy transferred = power × time	$E = P t$
22	energy transferred = charge flow × potential difference	$E = Q V$
23	density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$

Support

Class Teacher

- Kerboodle (online resource)
- Revision materials
- Past Papers
- Links to useful websites

Revision Guides

- Will be available to buy from Miss O'Fay (£8 combined) (£10 triple)
 - Booster books x 3 (£8)
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Tips to help your child succeed in science



Tips to help your child succeed in science

Homework

Set once a fortnight by each teacher

- Past Paper Questions
 - Research tasks
 - Revision tasks
 - Tasks via Kerboodle.co.uk - students have access to a digital textbook through this site too.
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Tips to help your child succeed in science

Reading

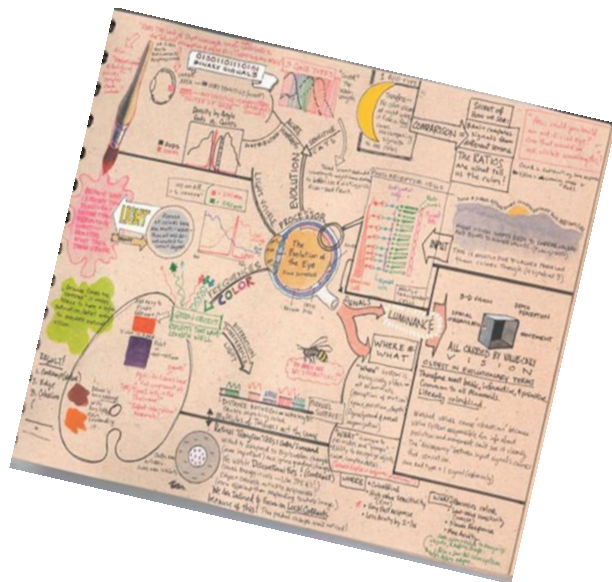
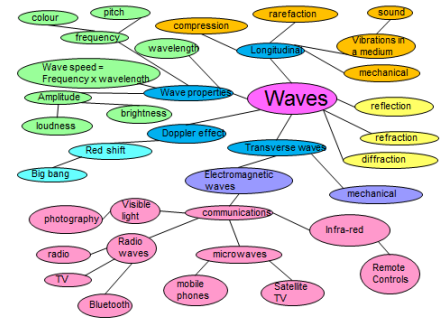
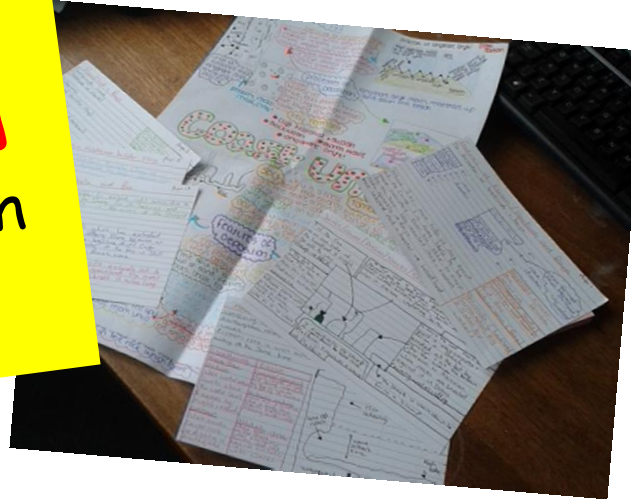
The average reading age of the exam materials was found to be 16 years for higher content and 12 years for foundation

The screenshot shows a web browser window with the URL www.teachingtimes.com/news/gcse-reading-age-lags-five-years.htm. The page header includes the logo for 'IMAGINATIVE MINDS GROUP TeachingTimes' and a search bar. A navigation menu contains links for Home, Books/Resources, Library, Online Publications, Knowledge Banks, Subscribe, Register, and Contact. The main article title is 'GCSE Students' Reading Age Lags Five Years Behind Exam Material'. The article text states that new data has revealed a significant gap between the average reading age of students and the chronological reading age required to understand GCSE exam papers and course materials. The research, by Renaissance Learning, involved over 24,500 Year 10 and 11 pupils across the UK, and found their actual reading ages were on average at least five years below their chronological ages, and therefore not at a sufficient level to effectively comprehend the GCSE exam materials. Six randomly selected GCSE exam papers and materials were assessed using the ATOS readability formula, which uses average sentence length, average word length, word difficulty level, and total number of words in a book or passage to ascertain the reading level of texts and books, to determine the average reading age required to comprehend the texts. Meanwhile the reading ages of 24,795 children in GCSE Years 10 and 11 were assessed. While the average reading age of the exam materials was found to be 15 years and seven months – the correct age for GCSE aged pupils, the students' actual reading age was found to be lagging significantly behind at an average of just 10 years and seven months, indicating a five year disparity between the average reading age of GCSE students and the reading level of GCSE texts. Dirk Foch, MD of Renaissance Learning said: 'These results are alarming because by GCSE level, most educators make the basic assumption that students are able to read and comprehend an exam text. It's clear from this research that this is not a safe assumption to make. Most students have a reading age significantly below the level that GCSE texts are being aimed at meaning some students are not only failing to access the curriculum, but they are failing to comprehend key course and exam texts.'

Tips to help your child succeed in science

Revision

Guides, q-cards, high lighters, **time**



Paper 1 AQA GCSE PHYSICS and
AQA GCSE Combined Science

GCSE WORKBOOK

TOPIC 2: Particles at Work

- P4: Electric circuits
- P5: Electricity in the home
- P6: Molecules and Matter
- P7: Radioactivity



Name _____

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Tips to help your child succeed in science

Sleep

1 extra hours sleep per night for 1 week:

Increases memory recall by 57%

Increases focus and attention by 44%

Increases problem solving by 61%

And 1 hours sleep deprivation can reduce cognitive academic performance by up to 2 years.



Any Questions?

